HAMPTON ROADS PLANNING DISTRICT COMMISSION

What's in Your Flood Plain?

IDENTIFYING AND MITIGATING RISKS

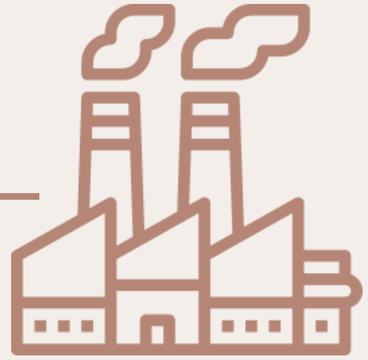
REGIONAL ENVIRONMENTAL COMMITTEE

AUG. 6, 2020

WHY ARE WE DOING THIS PROJECT?

- In response to the Toxic Floodwaters Report (Center for Progressive Reform) and other studies
  - New York Times Article, GAO study - Superfund sites at risk to climate, Other studies conducted in Massachusetts, North Carolina, Galveston Texas - chemical floods that actually happened
- Recent experiences from Hurricanes Harvey, Matthew, Florence, and most recently Laura
- On-going work to address climate change in sea level rise impacts in Hampton Roads

PROJECT GOALS



Where are the hazardous sites?

Are the sites at risk to current and future flooding impacts?

Who is affected if contamination occurs?

How can we improve regulations and mitigation strategies?

IDENTIFYING HAZARDOUS SITES

- Used inventory of potential sources of contamination originally developed for the regional source water protection plan
- These sites were chosen because they were determined to cause a significant amount of harm to public health if they reached a water source

Hazardous Sites

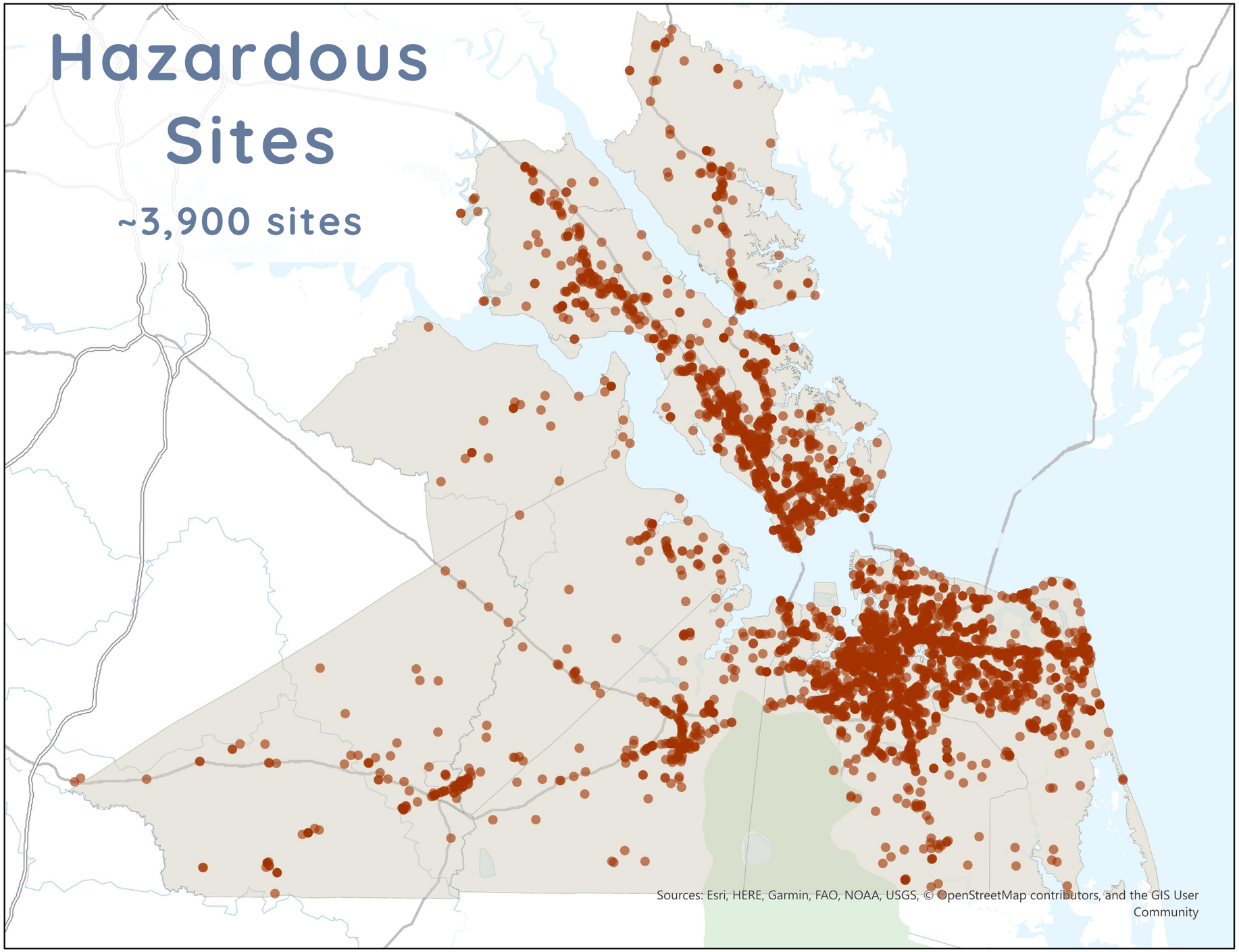
Categories of Hazardous Sites

- RCRA Sites
- Superfund Sites
- VPDES
- VRP – Land Disposal
- Airports
- Active Registered Petroleum Tanks

- Industrial Sites
  - Fertilizer/Pesticide Services
  - Livestock Processing
  - Lumber Services
  - Military Sites
  - Metal Manufacturing
  - Non-metallic, Plastics, Chemical manufacturing
  - Paint Services
  - Paper Manufacturing
  - Waste Services (i.e. Wastewater Treatment Plants)

Hazardous Sites

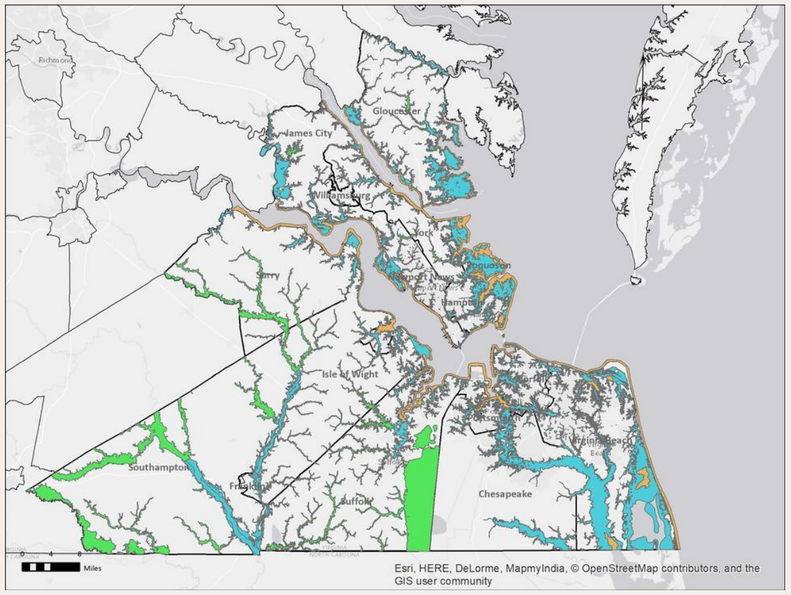
~3,900 sites



CLIMATE CHANGE & TIMESCALES OF VARIABILITY

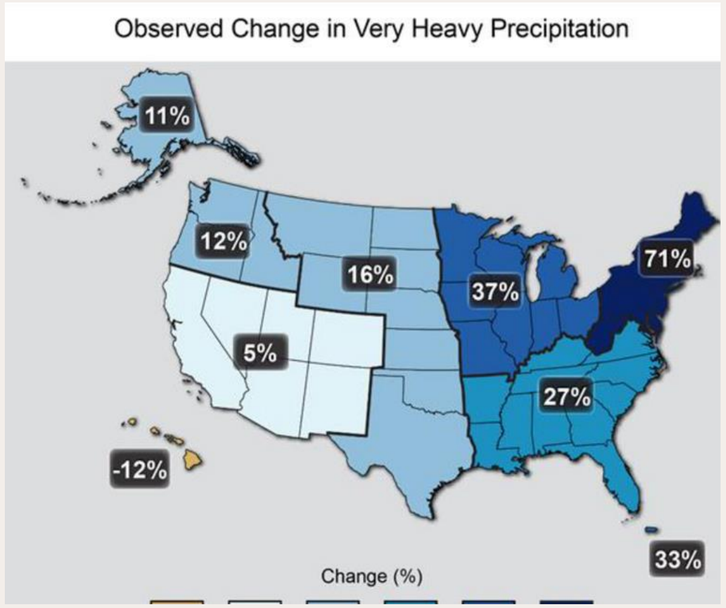
SHORT-TERM/ IMMEDIATE CONCERNS

What's at risk now? Where, how vulnerable? Data sources: FEMA flood risk products, USACE storm surge studies, etc.



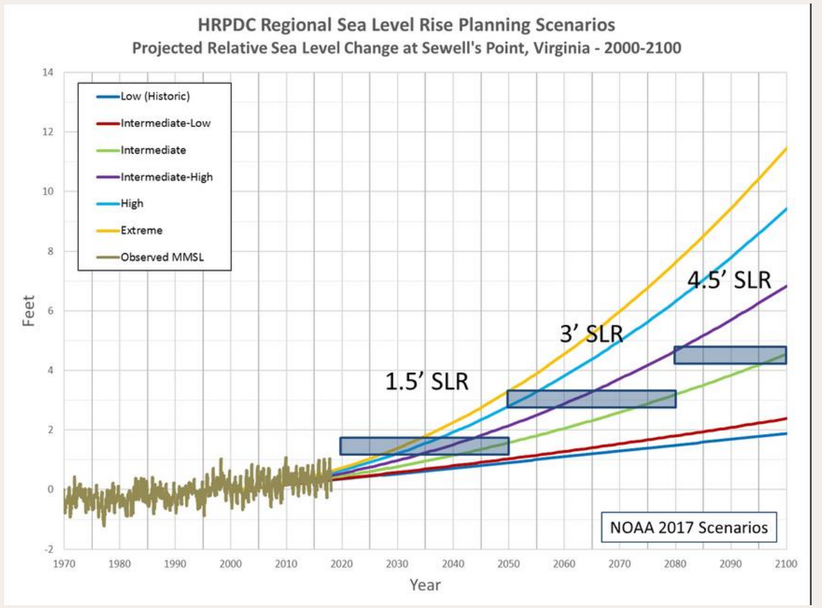
FUTURE STORM INTENSITIES

What about the 10-yr, 20-yr, probabilistic storm events? Can IDF curves help with siting and design?



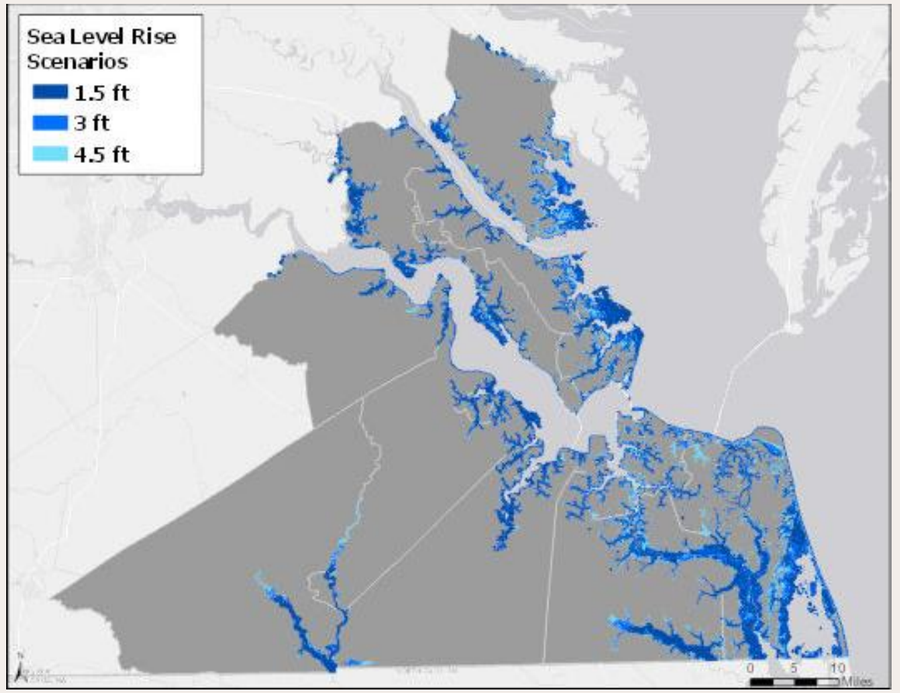
ESTIMATES OF SEA LEVEL RISE

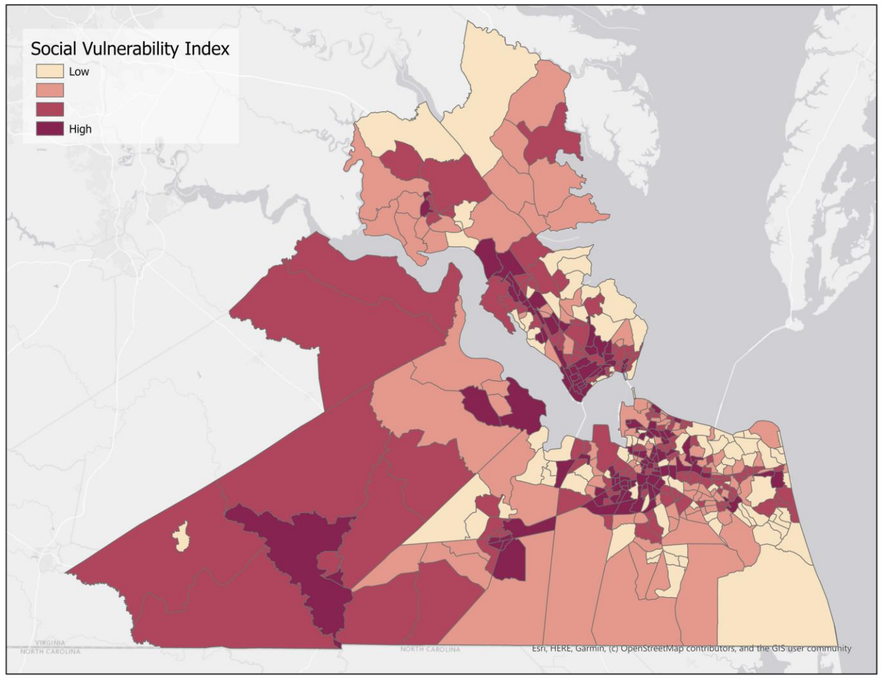
What extremes are we prepared for? Is there room for improvement?



AREAS AT RISK DUE TO FLOODING

Sea level rise, storm surge, increased precipitation events and high tide flooding all make the region vulnerable.





PEOPLE VULNERABLE TO FLOODS

SVI commonly used as an introductory assessment of vulnerable populations

REGULATORY AND MITIGATION STRATEGIES

CURRENT REGULATIONS & GAP ANALYSIS

VPDES, under and above-ground storage tanks, agriculture, septic, etc.

COORDINATION OF LOCAL DATA

Do we have all of the iniformation we need, does everyone collect the same information? Do requrements differ by localitiy?

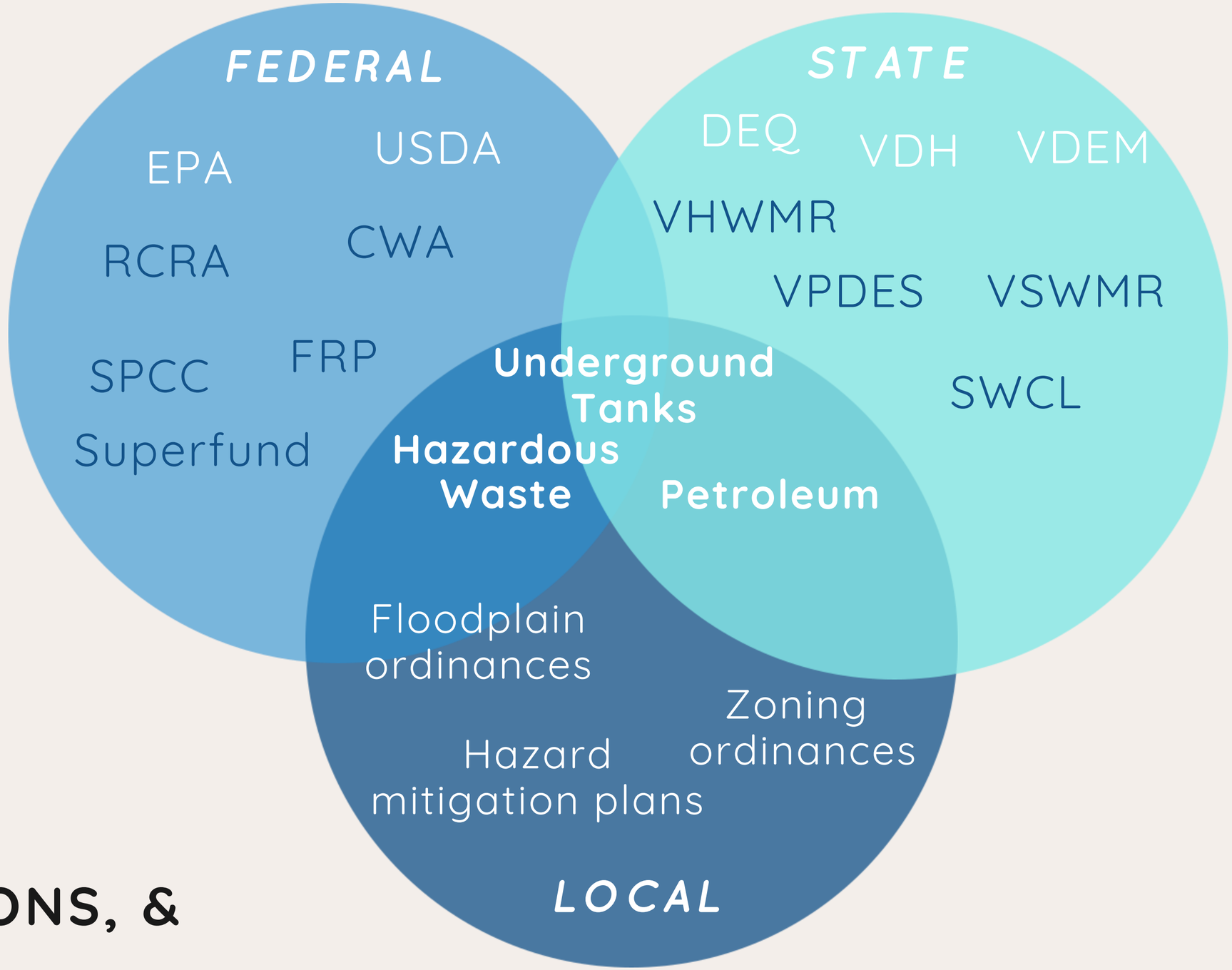
LOCAL ZONING ORDINANCES, SITING & DESIGN CRITERIA

Are we protective of immediate and future concerns?

LEGISLATIVE ACTION

HB1192 created a DEQ inventory of non-fed regulated hazardous waste sites; Failed HB1192/ SB626, regulate aboveground hazardous substance tanks

AGENCIES, REGULATIONS, & PLANS






ARE WE GOING IN THE RIGHT DIRECTION?

- Is our hazardous site selection too broad?
- What types of flooding events should be included?
  - What extremes should we capture?
- What social vulnerabilities are relevant?
- Are current standards & regs protective?
- Is your locality already looking into this?

WHAT'S NEXT?

DEVELOP A REPORT AND/OR STORY MAP OF PRELIMINARY FINDINGS

ASSEMBLE PARTNERS

Tidewater DEQ, localities, non-profits, universities, others?

FIND FUNDING

NFWF, VEE, EPA, NOAA, FEMA, DCR, climate resilience $

RESOURCES & MEDIA REPORTS

- Toxic Floodwaters Report (Center for Progressive Reform)
- Superfund sites at risk to climate change (GAO study)
- Protecting Water Quality in Virginia: Recommendations to Combat Sea Level Rise and Increased Storm Events (VCPC report)
- Chemical Storage in the Commonwealth (DEQ Report)
- Superfund sites and flooding article
- New York Times article